

'Gibson's nondescript' and the lost type of *Scissirostrum dubium* (Latham)

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Trivial marginalia sometimes provide information that is interesting to the historian in a way that was never intended by the original author. Such is the case of 'Gibson's nondescript' and *Scissirostrum dubium*. A marginal comment beside an unpublished watercolour painting, by an obscure provincial English artist, provided clues that led to the unravelling of at least part of the history of the holotype of a species.

George Gibson (c. 1762–1846) was an amateur, Tyneside-based artist who is best known for his many watercolours of mollusc shells (Jessop 1996), but he also produced a single volume of watercolours of birds that is owned by the Natural History Society of Northumbria, and held in their library at The Hancock Museum. The paintings are undated, but some are on paper that is watermarked with the date 1794. The front flyleaf contains some information in manuscript about the history of the volume, "C.M. Adamson from his father, June 1849. Drawings of birds by Mr George Gibson late of Newcastle", and "Pres. by Miss C. Adamson 1937": i.e. the volume was owned by members of the Adamson family until it was presented to the Natural History Society in 1937.

One of the birds is labelled in manuscript "Non-descript from the collection of M. Collone. The original was burnt at Thompson the bird stuffers", and this bird may be called 'Gibson's nondescript'.

M. Collone is undoubtedly Charles Alexandre de Calonne (1743–1802), who fled to England from France in 1797. George Humphrey catalogued his collection in London (Anon [Humphrey] 1797) before it was dispersed, the most valuable items being sold privately in 1801 and the remainder by auction in May, June and July of that year (Whitehead 1969, Chalmers-Hunt 1976).

Among the many birds listed in Humphrey's catalogue, there is one that may be the bird figured by Gibson as a nondescript. It is: "40. A bird probably of a new genus—Oiseau probablement d'une genre neuf".

'Gibson's nondescript' was referred to the Bird Group at the Natural History Museum at Tring for identification, and following a suggestion by Mr David Gibbs it was confidently identified as *Scissirostrum dubium* (Latham, 1802), a species of Sturnidae from the island of Sulawesi.

Scissirostrum dubium was first described by Latham in his *General Synopsis* (Latham 1801) as the Dubious Shrike, from a specimen seen at "Mr Thompson's in Little Saint Martin's Lane, London but without any history of its manner or country annexed". In the same year, Latham bestowed the latin binomen *Lanius dubius* upon the Dubious Shrike in the supplement to his *Index Ornithologus* (Latham 1802). The subsequent history of its taxonomy can be traced *via* Sharpe (1890).

There is a strong and obvious coincidence between *Thompson the bird stuffer* mentioned by Gibsone and *Mr Thompson's in Little Saint Martin's Lane, London* where Latham saw the bird on which he based his new species. The suspicion that the two Thompsons are in fact identical is strengthened by reference to *Holden's Triennial Directory* for 1805–07, where John Thompson a 'Natural History Preserver' is listed at 5 Little Saint Martin's Lane. There was, incidentally, also an auctioneer called Thompson next door at number 3, who may or may not have been the same John Thompson.

Setting aside the extremely remote possibility that Thompson had two specimens of *Scissirostrum dubium*, one described by Latham and another figured by Gibsone, it is reasonable to conclude that both men saw the same bird.

The manuscript annotation to Gibsone's painting is important because there is no information from the published literature about the prior history of the holotype of *Scissirostrum dubium* or of its fate. We know from Gibsone that the bird originated in the collection of de Calonne and that it was destroyed while at Thompson's.

Although the holotype of *Lanius dubius* Latham, 1802 is now known to be no longer in existence, it is a distinctive species, and there is no taxonomic confusion surrounding its identity: designation of a neotype is, therefore, unnecessary. There appears to be no discrepancy between the current interpretation of *Scissirostrum dubium* and Gibsone's painting of the holotype, and no taxonomic changes arise from the discovery of the painting.

References:

- Anon [Humphrey, G.], 1797. *Museum Calonianum. Specification of the various articles which compose the magnificent museum of Natural History collected by M. de Calonne in France and lately his property.* London.
- Chalmers-Hunt, J. M. 1976. *Natural History Auctions 1700–1972. A register of Sales in the British Isles.* London.
- Jessop, L. 1996. George Gibsone and his conches. *Trans. Nat. Hist. Soc. Northumb.* 57: 5–12.
- Latham, J. 1801. *Supplement II to the General Synopsis of Birds.* London.
- Latham, J. 1802. *Supplementum indicis ornithologici sive systematis ornithologiae.* London.
- Sharpe, R. B. 1890. *Catalogue of the Passeriformes, or Perching Birds, in the Collection of the British Museum. Sturniformes.* London.
- Whitehead, P. J. P. 1969. Zoological specimens from Captain Cook's voyages. *J. Soc. Bibliog. Nat. Hist.* 5: 161–201.

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Hybridization between Macgregor's Bowerbird *Amblyornis macgregoriae* and the Streaked Bowerbird *A. subalaris* (Ptilonorhynchidae) of New Guinea

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The four species of 'gardener' bowerbirds of the genus *Amblyornis* (Ptilonorhynchidae) are confined to upland areas of New Guinea. All are known or assumed to be polygynous species in which males build elaborate 'maypole' type bowers and females alone construct and attend the nest and raise their offspring (Gilliard 1969, Diamond 1986).

In all species individuals of both sexes are predominantly uniformly plumaged in buff, olive or rufous brown; and immature (crestless) males are like adult females. Adult males of three species are, however, adorned with a brilliant yellow (Golden-fronted Bowerbird *A. flavifrons*) to deep orange (Macgregor's *A. macgregoriae*, Streaked Bowerbird *A. subalaris*) crest. That adult males of the fourth species (Vogelkop Bowerbird *A. inornatus*) lack a crest and are thus identical to their females yet build the most elaborate of all bowers led to the 'transferral effect' theory of Gilliard (1969). This assumed that the forces of sexual selection (by females) have been transferred (or externalized) from morphological characters (the crest of adult males) to external objects (bowers) and that this 'transferral' has resulted in increasingly complex bower structures and their decoration. Thus as males of the various species have developed bower-building they have then simultaneously lost their crests to an extent correlated with the increasing complexity of their bower (Gilliard 1956, 1963, 1969). For full descriptions and illustrations of the birds and their bowers see Gilliard (1969), Cooper & Forshaw (1977) and Coates (1990).

Crown colouration among the three monogamous non-bower-building bowerbirds or catbirds (*Ailuroedus* spp.), and in the nine or ten members of the polygynous 'avenue'-building genera *Chlamydera* and *Sericulus*, conspicuously reflects speciation in these groups (Gilliard 1969, Frith & Frith 1995, 1997a, 1997b). Similarly, both adult male crest colouration and, more particularly, crest length differ between taxa and reflect speciation within *Amblyornis* (Gilliard 1969, Diamond 1972, Schodde & McKean 1973, Pratt 1982, Frith & Frith 1997b).

Macgregor's Bowerbird and the Streaked Bowerbird occur over predominantly different altitudinal ranges in eastern New Guinea. The higher range of 1600–3300 m (occasionally down to 1200 m) asl of the former species is bordered for much of its southern and a third of its northern range by that of the latter species at 1000–1400 m (occasionally 700–1400 m) asl (Beehler *et al.* 1986)—see Figure 1. Collecting localities and altitudes of museum specimens of

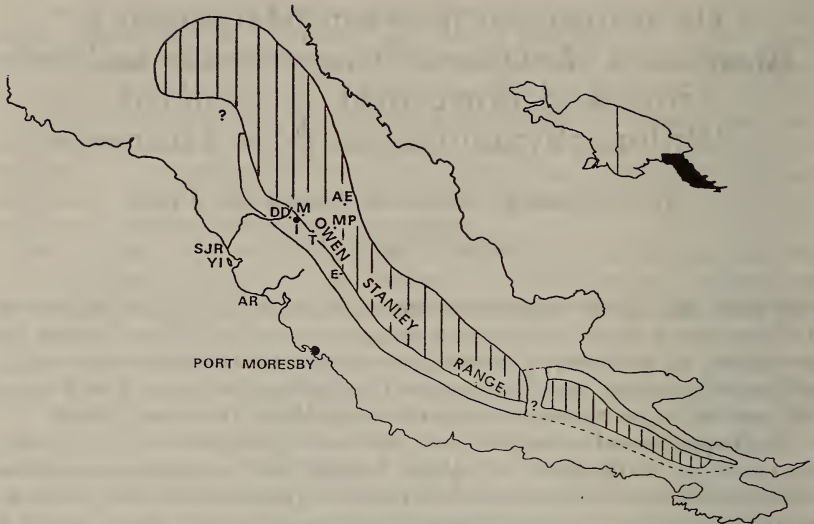


Figure 1. Map showing approximate distributions of Macgregor's Bowerbird *Amblyornis macgregoriae* (vertical hatched areas) and Streaked Bowerbird *A. subalaris* (adjacent unhatched narrow strips) on the south-eastern Papua New Guinea peninsula. Inset map shows the New Guinea mainland with the vertical border line between Irian Jaya to its left and Papua New Guinea to its right with the area of the larger map solid black. Locations mentioned in the text are indicated by: AE=Mt. Albert Edward, AR=Aroa River, DD=Deva Deva, E=Efogi, I=Iola, M=Mafulu, MP=Murray Pass, SJR=Angabunga or St. Joseph River, T=Mt. Tafa, YI=Yule Island. Areas indicated by a question mark are those gardener bowerbirds remain to be recorded in. After Schodde & McKean (1973).

Macgregor's and Streaked Bowerbirds indicated the possibility of sympatry between the two in the northeastern part of the range of the latter species (Frith 1970). It was subsequently noted that collecting methods and data for the specimens concerned were not necessarily accurate (LeCroy 1971, Bell 1972). The latter author reported, however, that both species had been observed at Efogi at *c.* 1800 asl (Fig. 1), where Macgregor's Bowerbird was in moss forest and the Streaked Bowerbird slightly below it. He wrote that "the species apparently need quite different habitats and their ranges apparently overlap merely because the moss-forest occurs at different altitudes in different areas with different climates".

In a review of the taxonomy of the *Amblyornis* bowerbirds an Australian Museum specimen (AM O. 26264) was noted to possibly represent a hybrid individual between Macgregor's and Streaked Bowerbirds (Schodde & McKean 1973). This specimen lacks a locality and has a 51 mm long crest measured from its posterior base. Compared with Streaked Bowerbirds, it has a "rather heavy pale bill, rather pale-brown sides to the head, a rather dense crest, streaked throat and the following measurements (mm): wing 126; tail 82; tarsus

36; bill (tip to nostril) 12.7. In these characters, it falls between *A. subalaris* and *A. macgregoriae*, and raises the possibility of occasional hybridization between the two species" (Schodde & McKean 1973).

This apparent hybrid was of interest as none had been authenticated within the bowerbird family notwithstanding a supposed unique intergeneric hybrid adult male specimen between the Satin Bowerbird *Ptilonorhynchus violaceus* and Regent Bowerbird *Sericulus chrysocephalus* of eastern Australia (Marshall 1954, Gilliard 1969). While the authenticity of this supposed intergeneric hybrid combination is now seriously doubted, the unique specimen having long ago disappeared, an undoubted interspecific hybrid between the Great and Spotted Bowerbirds *Chlamydera nuchalis* × *C. maculata* of Australia has been described (Frith & Frith 1995).

Methods

While studying bird specimens at the American Museum of Natural History, New York (AMNH), we took the opportunity to examine skins of gardener bowerbirds for another study of this group (Frith & Frith 1997b). The collection contained an adult-plumaged specimen of Macgregor's Bowerbird taken at Iola on 28 May 1929 and four adult-plumaged male Streaked Bowerbirds from the same locality during 1–5 June 1929, collected by Hannibal Hamlin of the Whitney South Sea Expedition. A Streaked Bowerbird specimen (AMNH 831497) was recorded by Lee Crandall as taken at the adjacent village of Deva Deva at "4–5000'" (*c.* 1375 m) asl on 20 October 1928. Iola is a village, immediately east of Deva Deva and west and below Mafulu, on the mountain range just to the south of the Angabunga (or St Joseph) River, inland of Yule Island (Fig. 1).

Iola and Deva Deva were also visited by the 1933–34 Archbold Expedition en route to Mt. Albert Edward via Mt. Tafa and the Murray Pass, but were stated to be only 700 m asl (Archbold & Rand 1935). These two gardener bowerbird species were also both collected by Hamlin and/or his collectors at Deva Deva. While acknowledging that Hamlin's Macgregor's Bowerbird locations are at approximately 700 m asl, Mayr & Rand (1937) noted they encountered the species only at 2000–2800 m asl. As 770 m is well below even the extreme lowest altitude normally frequented by Macgregor's Bowerbird it seems likely Hamlin and his collectors climbed to procure the two specimens of that species or obtained them from Papuans that did so for him.

We examined and measured all gardener bowerbird specimens from Iola and immediately adjacent localities (Table 1). All wing and tail measurements were made with the same rulers, all others with the same electrical digital callipers, and all by CBF. Wing length measured was the flattened and straightened, thus maximised, chord using a stopped steel rule. Tail length was measured from the point of entry of the central pair into the bird's skin to the tip of the longest feather with a small steel rule. Bill length was measured from the bill tip to the cranio-facial hinge. Tarsus length was that of the tarsometatarsal bone. One or two crest length measurements were taken of adult males, the

TABLE 1
 Details and measurements (mm) of six Macgregor's and seven Streaked Bowerbirds, and a hybrid individual, all males

Specimen no.	Age	Locality	Date	Wing	Tail	Exposed crest	Crest length	Tarsus	Bill
<i>A. macgregoriae</i>									
421006	Ad	Mt. Tafa, west slope, 2700 m	23.8.33	133	87	85	—	37.4	27.9
330484	Ad	Iola, c. 1375 m	28.5.29	139	92	92	66	35.9	27.9
421005	Imm	Murray Pass, 2840 m	2.8.33	135	87	—	—	37.6	29.0
421004	Imm	Mt. Tafa, east slope, 2070 m	31.5.33	133	88	—	—	37.0	28.1
816488	Imm	Mt. Albert Edward, 2320 m	15.8.69	139	84	—	—	39.7	28.9
330485	Imm	Deva Deva, c. 1375 m	30.5.29	131	92	—	—	37.4	27.1
Means				135	88	89	66	37.5	28.2
Hybrid	Ad	Yule I., c. 1375 m	1.6.29	130	—	72	50	34.2	26.2
<i>A. subalaris</i>									
831497	Ad	Deva Deva, c. 1375 m	20.10.28	121	85	56	—	34.1	24.8
330486	Ad	Deva Deva, c. 1375 m	31.5.29	127	92	55	—	33.5	25.0
330492	Ad	Deva Deva, c. 1375 m	15.6.29	124	92	63	—	32.3	24.0
330488	Ad	Iola, c. 1375 m	4.6.29	124	88	50	36	35.3	25.7
330491	Ad	Iola, c. 1375 m	5.6.29	127	93	55	38	36.0	25.8
330490	Ad	Iola, c. 1375 m	5.6.29	128	90	55	36	33.6	26.1
280845	Ad	Iola, c. 1375 m	4.6.29	126	86	65	—	35.1	25.3
Means				125	89	57	37	34.3	25.2

Notes: All specimens from American Museum of Natural History, except the last which is from the Field Museum of Natural History, Chicago.

Crest length is measured from the posterior base.

The altitude of specimen no. 330492 is less reliable (M. LeCroy *in litt.*)

length from posterior base (*cf.* Schodde & McKean 1973) and that of the exposed or visible length of the orange crest (Table 1).

Results and discussion

Of the four AMNH *Iola* specimens identified as Streaked Bowerbirds, three had fully developed orange crest plumes marked with small amounts of deep brown, from fine short flecking (AMNH 330488) to numerous larger streakings (330491). While the identity of these four specimens has never been questioned, it was noted by Mayr & Rand (1937) that one of them had the usually pronounced throat and breast streaking much reduced. The other three AMNH *Iola* males have a crest bordered at the outer edges with a contrastingly dark, almost a reddish-black, brown—a feature characteristic of Streaked Bowerbirds, present in the three adult males from nearby Deva Deva. Adult male Macgregor's do have brown feathering at the outer border of their crest but it is far less dark and discrete than in Streaked Bowerbirds, being much the same olive-brown as the rest of their head and nape.

The fourth adult male supposed Streaked Bowerbird (AMNH 330487) from *Iola* does not exhibit the dark crest border typical of the species but has a crest intermediate in colour and tone between that species and the *Iola* Macgregor's Bowerbird. The sides of its face are not lighter than in Streaked Bowerbirds from *Iola*. It differs conspicuously from adult male Streaked Bowerbirds from there and elsewhere in having only the slightest trace of throat and chest streaking, notwithstanding known variation of ventral markings in the Streaked Bowerbird (*cf.* Schodde & McKean 1973). We view this 'masking' of typical Streaked ventral streaking as an expression of the influence of ventrally plain Macgregor's Bowerbird genes. The base of the lower mandible of the apparent hybrid individual is paler than that of most Streaked Bowerbird specimens, only that of specimen AMNH 330490 being similarly pale. The hybrid specimen (AMNH 330487) unfortunately lacks its tail.

All three *Iola* adult male Streaked Bowerbirds of normal appearance have a crest shorter than 40 mm in length, measured from the posterior base. Crest length in 12 AMNH adult male Owen Stanley Mountains Streaked Bowerbirds, additional to those detailed in Table 1, average 35 (range 24–40) mm. That of eight other adult male Streaked Bowerbirds, in Australian collections, average 39 (range 37–42) mm (Schodde & McKean 1973). The latter authors also cite crest lengths from posterior base of three adult male Macgregor's Bowerbirds from the western Owen Stanley Range of 52, 57 and 59 mm. Thus the 72 mm exposed crest length of the *Iola* hybrid specimen AMNH 330487 is intermediate between the mutually exclusive crest lengths of Streaked and Macgregor's Bowerbirds.

The hybrid specimen was recorded as collected at *Iola* on 1 June, the three Streaked Bowerbirds on 4–5 June and the Macgregor's Bowerbird on 28 May. We therefore see the former's larger wing length, conspicuously longer crest and lack of ventral streaking, compared with these features of Streaked Bowerbirds from the same

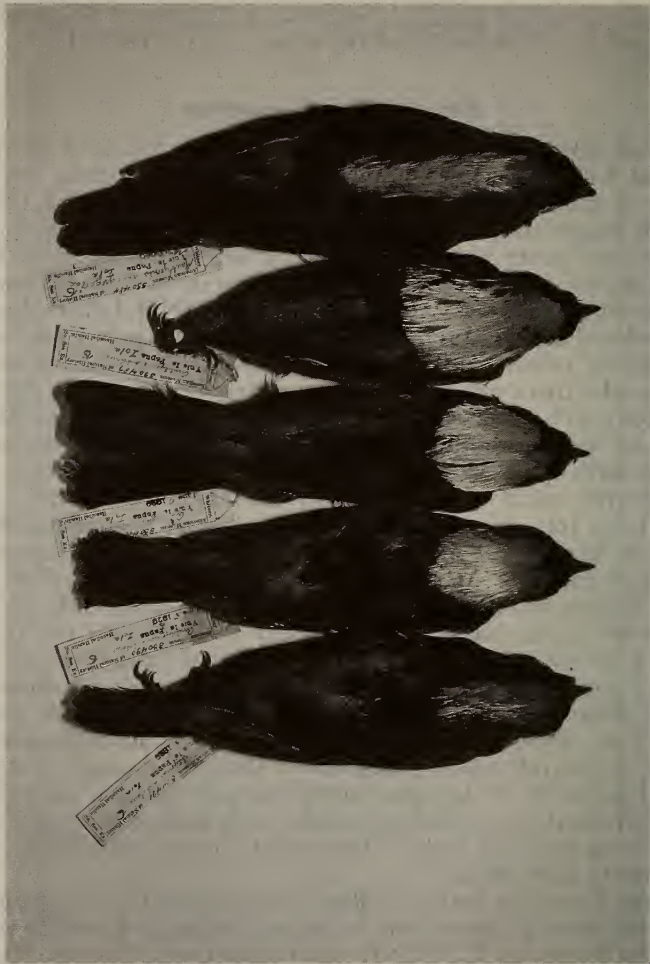


Figure 2. Dorsal appearance of AMNH specimens of adult males of: *Amblyornis macgregoriae* (33048), A hybrid *A. macgregoriae* \times *A. subalaris* (330487, lacking tail) and three *A. subalaris* (330488, 330490, 330491) seen from top to bottom respectively. Note intermediate crest length and dorsal markings of the hybrid.

area (Table 1), as too great a coincidence to be indicative of intraspecific variation. Hence we consider it an *A. macgregoriae* \times *A. subalaris* hybrid individual exhibiting stronger evidence of the genes of both putative parents than the specimen (AM O. 26264) of unknown locality thought also to represent this hybrid combination (Schodde & McKean 1973). Our measurements of both crest from posterior base and exposed crest support this conclusion and are consistent with measurements of both putative parent species presented by Diamond